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10/657,244

09/09/2003

Narutoshi Fukuzawa

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EXAMINER

MUHAMMED, ABDUKADER S

ART UNIT

PAPER NUMBER

2635

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

12/26/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/657,244

Applicant(s)

FUKUZAWA, NARUTOSHI

Examiner

Abdukader Muhammed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09 September 2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kasada et al. (US 6,683,188 B1).

Regarding Claims 1-3, Kasada et al. teach an optical recording medium comprising a supporting substrate (substrate); a recording layer on the supporting substrate, the recording layer containing an organic compound as a major component; and a light-transmitting layer (a protective layer made of an ultraviolet ray hardening) on the recording layer. See column 1, lines 30-38. Note that the recording medium absorbs light with a wavelength of 450nm or lower for recording and reproducing information, wherein the organic compound in the recording layer includes a monomethine cyanine dye (see column 2, lines 13-32) that has the minimum value of its refractive index n (real part of the complex refractive index) within the range of 370 to 425 nm and has a refractive index n of 1.2 or lower with respect to the wavelength of the recording/reproducing laser light, and the organic compound, when absorbing the laser

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light, melts or degrades to bring about a change in the refractive index, thereby effecting recording of the information. Note once monomethine is used for the recording layer its characteristics are inherent, see for example figure 1.

Regarding Claims 4 and 5, as applied to claim 1 above and Kasada et al. further teach that the monomethine cyanine dye contains a monomethine group with two nitrogen-containing heterocyclic rings positioned on ends of the monomethine group (see column 2, lines 13-20), one of the two nitrogen-containing heterocyclic rings being selected from the group consisting of indolenine (see column 14 line 65) and benzothiazole (see column 15 line 3), and the other of the two heterocyclic rings being selected from the group consisting of indolenine (see column 14 line 65), quinoline (see column 15 line 9), benzothiazole (see column 15 line 3), benzimidazole (see column 14 line 63) and benzoselenazole (see column 15 line 1). Kasada et al. also teach that the monomethine cyanine dye contains a monomethine group with two nitrogen-containing heterocyclic rings positioned on ends of the monomethine group, the two nitrogen-containing heterocyclic rings being identical to one another (see column 14, lines 58-63). Note that Kasada et al. have many substitutes for the heterocyclic rings and in different ways.

Regarding Claim 7, claim 7 is the combination of claims 1 through 5 in a method claim format. Kasada et al. teach the method and the product in combination for the reasons given above for claims 1-5.

4. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogiso et al. (US 7,094,516 B2).

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Regarding Claims 1-7, Ogiso et al. teach an optical recording medium comprising a supporting substrate (a substrate 1); a recording layer (recording layer 2) on the supporting substrate, the recording layer containing an organic compound as a major component; and a light-transmitting layer (a protective layer 4) on the recording layer (see figure 1 and column 6, lines 39-44). Note that the recording medium absorbs light with a wavelength of 300nm to 500nm (see column 3, lines 45-49); wherein the organic compound in the recording layer includes a monomethine cyanine dye. Note that cyanine based compound (see column 39 lines 24-32) is used with methine having 1 to 20 atoms (see column 41, lines 10-16) that has the minimum value of its refractive index n (real part of the complex refractive index) within the range of 370 to 425 nm and has a refractive index n of 1.2 or lower with respect to the wavelength of the recording/reproducing laser light, and the organic compound, when absorbing the laser light, melts or degrades to bring about a change in the refractive index, thereby effecting recording of the information. Note once monomethine is used for the recording layer its characteristics are inherent. For the list of an alkyl group and alkoxy group see column 8-12. thiazolyl group, benzimidazolyl group quinolinyl group and other more groups are used for heterocyclic ring (see column 25, lines 40-50). The addition of quenchers to improve solubility is also disclosed (see column 39, lines 45-50).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject

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matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kasada et al. (US 6,683,188 B1) as applied to claim 1, above, further in view of Yanagisawa et al. (US 5,326,679).

Regarding Claim 6, Kasada et al. teach the limitations of claim 1 for the reasons discussed above. Kasada et al. differ from the claimed invention in that the recording layer does not contain quencher.

Yanagisawa et al. teach the use quencher in a recording medium for cyanine dyes (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used quencher in the system of Kasada et al. since Yanagisawa et al. teach the use of quencher for preventing photo deterioration of cyanine dyes (see abstract lines 11-14).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73 (b).

Claims 1-7 are rejected under the judicially created doctrine of obviousness- type double patenting as being unpatentable over claims 1-7 of U.S. application No.

10/657,205. Although the conflicting claims are not identical, they are not patentably

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distinct from each other. The only difference is that the instant invention claims monomethine cyanine dye for the recording layer while application 10/657,205 claims an obvious variation trimethine cyanine dye. Note that both organic dyes are same group of cyanine dyes.

Conclusion

7. The prior art made of record in PTO-892 Form and not relied upon is considered pertinent to applicant's disclosure.

Namba et al. (US 6,071,672) teach a recording medium that has a recording layer with cyanine dyes such as monomethine cyanine dyes and trimethine cyanine dyes (see column 40, lines 64-68). The recording layer also contains quencher for stabilizing (see column 24, lines 21-24).

Koyama et al. (US 2003/0064322 A1) teach recording medium that has a recording layer of polymethine dye with any of monomethine, dimethine and trimethine chains with identical or different cyclic nuclei at their both ends (see page 2, paragraph [0015]).

Matsui et al. (US 2002/0034605 A1) teach recording medium that has a recording layer made polymethine dyes such as a cyanine, merocyanine, oxonol, azulenium, thiopyrylium, and phenanthrene dyes, which have a monomethine chain or polymethine chain that may contain one or more substituents, and which may bind one or more of the same or different cyclic cores at their both ends (see page 2, paragraph [0014]).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdukader Muhammed whose telephone number is (571) 270-1226. The examiner can normally be reached on Monday-Thursday 8:00-5:00.

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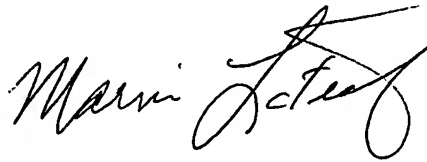
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on (571) 272-5026. Customer Service can be reached at (571) 272-2600. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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15 December 2006



MARVIN LATEEF
SUPERVISORY PATENT EXAMINER